REMARKS

Reconsideration and allowance of the subject application are respectively requested. By this Amendment, Applicants have amended claims 1 and 34 and canceled claims 30, 32, and 33. Therefore, upon entry of this Amendment, Claims 15-29, 31, and 34-48 are all the claims pending in the application. In response to the Office Action, Applicants respectfully submit that the claims define patentable subject matter.

I. Response to Arguments

The Examiner has considered the arguments for claims 15 and 29-34 submitted in the Amendment filed on January 15, 2009, but states that they are moot in view of the new grounds of rejection.

II. Overview of the Office Action

Claim 34 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 15 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Publ. No. 2002/0141673 to Ito et al. (hereinafter Ito). Claims 29-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of U.S. Publ. No. 2003/0059139 to Nakajima (hereinafter Nakajima). Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Nakajima and JP 2003/057070 to Norimatsu (hereinafter Norimatsu).

III. Formal Matters

Applicant thanks the Examiner for considering the references submitted in the Information Disclosure Statement filed on October 15, 2008.

Rejection under 35 U.S.C. § 112, second paragraph

Claim 34 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the Examiner states that it is unclear as to what features of the fixed member have the dimensions of Ra and Rz. By this Amendment, Applicants have amended claim 34 to recite "the fixed member has recesses and projections having 0.2 through 2.0 μm by an arithmetic mean height Ra" as suggested by the Examiner and respectfully request that this rejection be withdrawn.

IV. Prior Art Rejections

Claim 15 is rejected under 35 U.S.C. § 102(b) as being anticipated by Ito. Claims 29-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Nakajima. Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Nakajima and Norimatsu.

A. Independent claim 15

By this Amendment, Applicants have added the elements of claims 29-32 to claim 15. Specifically, by the Amendment, Applicants have added the recitations "the magnet portion and the fixed member are bonded by at least one of a phenolic resin based adhering agent and an epoxy resin based adhering agent" and "the adhering agent is baked to the fixed member in a semicured state[1] and further cured in a process of forming the magnet portion by insert molding". Applicants respectfully submit that there is no motivation to modify the cited references to have the above elements.

[1] Support for the Amendment is found in the Specification at least at paragraphs [0055], [0057], and [0064].

Type of Adhering Agent

Regarding claims 29 and 31, the Examiner acknowledges that Ito does not disclose the adhering agent being either a phenolic resin based adhering agent or an epoxy resin based adhering agent. The Examiner thus relies on the epoxy resin and the epoxy phenol of Nakajima to cure this conceded deficiency. However, claim 15 also recites that "the magnet portion ... includes a ... thermoplastic resin". On the other hand, the magnetic encoder 10 in Nakajima is made by sintering a powdery mixture of a powdery magnetic material and a powdery non-magnetic metallic material which has properties that are completely different from a magnetic encoder which includes a thermoplastic resin. Specifically, the epoxy resin and epoxy phenol are able to act as a good bonding agent for the sintered magnetic encoder because the epoxy resin and epoxy phenol are able to penetrate into the pores in a surface region of the porous sintered element and thus have an anchoring effect. However, a magnetic encoder that includes a thermoplastic resin does not have the pores that a sintered magnetic encoder does, so the epoxy resin and epoxy phenol would not have the same anchoring effect on a magnetic encoder that includes a thermoplastic. Furthermore, the only other motivation for using the epoxy resin and epoxy phenol disclosed in Nakajima is to prevent rust. However, a magnetic encoder containing a thermoplastic does not rust like a sintered magnetic encoder. Therefore, there is no motivation to use the epoxy resin or the epoxy phenol of Nakajima with a magnetic encoder that includes a thermoplastic because the only advantages disclosed in Nakajima for using the epoxy resin and epoxy phenol are specific to a sintered magnetic encoder, and those advantages do not apply to a magnetic encoder that includes a thermoplastic resin.

Adhering Agent Further Cured During Insert Molding

Regarding former claims 30 and 32, the Examiner seems to allege that the cited art discloses using a bonding agent when performing insert molding. However, neither Ito nor Nakajima disclose using a bonding agent when the magnetic encoder is insert molded. Specifically, Ito only discloses that the magnetic encoder is "molded simultaneously with the core metal" when thermoplastic resin is used as a binder.[2] Accordingly, Ito does not disclose the use of a bonding agent when performing insert molding. Also, Nakajima only discloses using a bonding agent when the magnetic encoder is made separately and then subsequently bonded to the metallic substrate. With regards to insert molding, Nakajima only discloses that the "bonding step can be performed simultaneously" and does not disclose using a bonding agent when performing insert molding. Furthermore, a resin can be bonded to a metallic substrate without the use of a bonding agent during insert molding. Accordingly, Ito and Nakajima do not even disclose using a bonding agent while performing insert molding, much less that that the bonding agent is cured in a process of insert molding.

Also, the Examiner acknowledges that neither Ito or Nakajima disclose curing the epoxy resin or the epoxy phenol during the insert molding. The Examiner thus alleges that it would be obvious to cure the epoxy resin or the epoxy phenol during the insert molding because one having ordinary skill in the art would do so to perform several construction steps simultaneously, thus shortening construction time for the magnetic encoder. However, neither Ito or Nakajima disclose this motivation or any other motivation. In fact, neither Ito or Nakajima disclose that the epoxy resin or the epoxy phenol is even cured, much less that it is cured in the insert molding

[2] Ito, paragraph [0012].

process. Also, curing the bonding agent simultaneously is not as simple as the Examiner alleges, and performing steps simultaneously requires extra considerations such as ensuring that the bonding agent has not been completely cured before insert molding and positioning the bonding agent before the insert molding process. However, the Examiner does not state why a person skilled in the art would have come up with the solutions to these extra considerations when nothing is disclosed in the prior art.

Similarly, by this Amendment, Applicants have amended claim 15 to recite "the adhering agent is baked to the fixed member in a semicured state". If the adhering agent is not baked in a semicured state before insert molding, the adhering agent flows off and an effect of the adhering agent is not obtained. Further, if the insert molding is performed after the adhering agent is completely cured, an effect of the adhering agent is also not obtained. Accordingly, the present invention is not as simple as the Examiner alleges, and there is no motivation in the cited references to bake "the adhering agent ... to the fixed member in a semicured state" or to "further [cure the adhering agent] in a process of forming the magnet portion by insert molding", as recited in amended claim 15.

At least for the above reasons, Applicants respectfully request the Examiner to withdraw the rejection of amended claim 15.

B. Dependent claims

Applicants respectfully request the Examiner to withdraw the rejections of claims 29 and 31 at least for the reasons shown in the discussion of claim 15. Also, since claims 29, 31, and 34 are dependent from claim 15, Applicants submit that claims 29, 31, and 34 are allowable at least by virtue of their dependency on claim 15. Further, by this Amendment, Applicants have canceled claims 30, 32, and 33 thus rendering the rejections of these claims moot.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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